



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

LR-8J

Ted Dragovich
Manager, Disposal Alternatives Unit
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

RE: Response to Comments, Veolia Draft Permit

Dear Mr. Dragovich:

Per your request, U.S. EPA has reviewed the following comments on the Veolia ES Technical Solutions, LLC (Veolia) draft RCRA permit. These comments were submitted by Veolia and pertain to elements of the draft permit designed to protect human health and environment through an annual mercury feed rate limit. Veolia's comments are repeated in the attached document along with our recommended response after each comment. As for the most recent comments submitted we are looking at the Sierra Club comments to see if we have anything to add.

Please feel free to contact Todd Ramaly of my staff at (312) 353-9317 or at the address above with questions or comments.

Sincerely,

A handwritten signature in cursive script, reading "Willie H. Harris", is positioned above the typed name.

Willie H. Harris, P.E.
Chief, RCRA Branch
Land and Chemical Division

Enclosure:

VEOLIA COMMENT: Page IV-2 Section A.9.

Draft Permit reads: *"Mercury Annual Feed Rate Limit. The Permittee shall not feed more than a total of 3.63 kilograms (kg) of mercury per year to any combination of the three incinerator units. The Permittee shall not feed mercury or mercury-containing materials, including hazardous waste, solid waste, fuels, and any other feed streams into the incinerators at a rate that will result in an exceedance of the mercury annual feed rate set forth in this paragraph. For purposes of the mercury annual feed rate limit, the first year shall begin on the effective date of this permit and each year thereafter shall begin on the anniversary of the effective date of the permit."*

1. Demonstrated removal efficiencies for each of the incineration units were not taken into consideration in developing this mercury annual feed rate limit. The facility completed metals testing on all three incinerators in August, 2008 that included mercury testing. Test reports along with SRE data will be submitted to IEPA and USEPA to document compliance with the Regulations and define a annual feed rate limit for mercury based on these testing results.
2. Veolia submitted a revised Human Health Risk Assessment to USEPA in November, 2005. The results of this assessment demonstrated no risk to human health and the environment based on the current Incinerator MACT emission limit for Mercury. Veolia, as of this writing have received no comments from the Agency on this report.
3. This defined feedrate limit along with the requirements for calculating mercury non-detected sample analysis defined in this permit would essentially make this facility non-viable.

Commentor's Suggestion: Incorporate the revised annual feed rate limit for mercury for the incinerators based on the August, 2008 test results and the revised Human Health Risk Assessments results submitted by Veolia in November, 2005.

EPA RESPONSE:

1. The results of the August 2008 test burns were not available for the July 24, 2008 draft permit. They can be considered as part of a request for a permit modification. Illinois Environmental Protection Agency and U.S. Environmental Protection Agency did review system removal efficiency (SRE) data for mercury from test burns conducted prior to the August 2008 test burns, however, SRE calculations from these burns were rejected because they either lacked adequate test feed analysis and quality control or failed the MACT standard at the stack or both.
- 2 The Agencies and Veolia have over a ten-year history of communication regarding the human health risk assessments to establish RCRA permit conditions. The following is a summary of the main communication points regarding the site-specific risk assessment process:
 - 1995 Veolia did not include a site-specific risk assessment in its Part B RCRA permit application.
 - 1998 EPA contractor provided site-specific data to EPA to perform risk assessment.
 - 2001 EPA prepared a draft screening risk assessment from 1995 test burn data that showed a potentially high cancer risk from dioxin exposure. EPA contacted the facility and was told about the facility's installation of a carbon-injection unit in 1998 to reduce dioxin emissions. The facility then provided stack test data to be used in a revised risk assessment.
 - 2003 The results from a revised risk assessment that indicated acceptable risk and hazard results was submitted for public comment with the Draft permit for public comment. The Sierra Club commented that the risk assessment should include deposition into water bodies located at Frank Holden State Park.
 - 2004 EPA agreed with The Sierra Club's comments and revised the risk assessment to address deposition into those water bodies. When revised, the risk assessment revealed that the hazard index was unacceptable due to the potential for people to consume fish that might be contaminated from mercury emitted at the MACT standard. Based on this revision, EPA was able to back-calculate an emission rate from the acceptable hazard index to establish an annual mercury feedrate for the permit.

- 2004 Veolia submitted its own risk assessment. EPA and Veolia communicate extensively to attempt to resolve the many differences in the two reports, including the treatment of fish consumption rates and trophic level parameters.
- 2005 Veolia conducted additional testing to determine mercury speciation and particle size distribution at Unit 4. At a meeting called to discuss high-end fish consumption and fish trophic level parameters, Veolia submitted a revised risk assessment that used portions of a newly released EPA final combustor risk assessment guidance. This risk assessment did not incorporate EPA's comments on fish consumption rates and trophic level parameters.
- 2007 EPA revised its risk assessment to include site-specific elements of Veolia's risk assessment while addressing the new EPA guidance and the EPA-recommended fish consumption rates and trophic level parameters. IEPA concurred with EPA's risk assessment and incorporated permit conditions based on the EPA risk assessment in the new Draft RCRA permit.

3. Economic viability is not a factor in the determination of appropriate permit conditions. Veolia's facility is in the business of commercially incinerating hazardous wastes and needs to meet conditions necessary to protect human health and the environment. These permit conditions are necessary to protect human health and the environment from the consequences of mercury emissions. These conditions are designed to reduce mercury emissions at the stack in order to mitigate the potential for mercury deposition in nearby lakes and subsequent exposure of residents to ingestion of mercury contaminated fish.

EPA disagrees with Veolia and recommends the permit condition remain unchanged.

VEOLIA COMMENT: Pages IV-2 – IV-5 Section A.10. Special Mercury Procedures

General Statement: The “Special Mercury Procedures” defined in Section IV of the Draft Part B are overly onerous, appear punitive and have no regulatory or safety basis. These procedures are also not consistent with the requirements for mercury analysis for the other hazardous waste incinerators in Region 5. A review of the Heritage – WTI RCRA Part B Permit and the Ross RCRA Part B Permit in regards to these requirements merely state that the facility’s are to follow the procedures detailed in their Waste Analysis Plan. The requirements in their WAP are far less onerous than those defined in the Veolia’s draft RCRA Part B Permit.

EPA RESPONSE:

Draft permit conditions are based on site-specific conditions and risk assessment at the Veolia facility and in the surrounding community. These conditions were deemed necessary to protect human health and the environment from the consequences of mercury emissions. Site-specific dispersion modeling and risk assessment showed that mercury emissions from the Veolia facility could result in deposition of mercury in and around lakes used for fishing downwind of the facility. These conditions are designed to reduce mercury emissions at the stack in order to mitigate the potential for mercury deposition in the nearby lakes and subsequent exposure of residents to ingestion of mercury contaminated fish. The special mercury conditions are designed to verify compliance with the mercury feedrate limit and simply require analysis of Veolia’s feed for mercury and proper documentation. Veolia’s current WAP is inadequate for this purpose and adding “Special Mercury Conditions” to the permit that supercede the WAP was more efficient than rewriting Veolia’s entire WAP.

VEOLIA COMMENT: Page IV-2 Section A.10.(i)

Draft Permit reads: *"Special Mercury Procedures. The Permittee shall implement the following special mercury procedures beginning on the effective date of this permit:*

Pre-acceptance screening procedure. The Permittee shall screen all waste for mercury prior to acceptance for incineration at the facility. The Permittee shall obtain, prior to the shipment of waste to the facility, a representative sample of the waste for mercury analysis by the Permittee using appropriate quality assurance/quality control procedures and an appropriate test method that are consistent with the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846). The Permittee shall follow this pre-acceptance screening sampling and analysis procedure at least twice a year for each waste stream using appropriate quality assurance/quality control procedures and an appropriate test method that are consistent with SW-846. If the sampling analysis indicates that the concentration of mercury in the waste is such that the mercury annual feed rate limit in condition IV(A)(9) would be exceeded, the Permittee shall not accept such waste for incineration at the facility."

1. Samples are submitted for many wastes that simply do not contain mercury. The generators waste profile sheet and accompanying MSDS (if the waste is a off-spec product) will determine if the waste is suspect for mercury. Veolia has a procedure in place that models the PCB Policy in the Waste Analysis Plan that defines the criteria for suspect. If a waste is not a mercury "suspect" waste based on a review of the waste profile sheet and/or MSDS, mercury analysis should be deferred. If the waste requires mercury analysis, the analysis will be completed during the acceptance procedure when the waste is on-site.

2. Pre-acceptance analysis is performed on many wastes that will never actually be received. Requiring mercury analysis on wastes that may not be received ties up personnel and instrumentation resources which could be better utilized for analyzing wastes which are actually in the process of being received for incineration. Veolia bases its approval criteria on the waste profile sheet and/or MSDS and the mercury concentration that is defined by the generator. Veolia will not approve waste that are prohibited by the RCRA Part B Permit, the regulations or the defined mercury concentration would exceed our feed rate limits. If the waste is approved for acceptance and meets any element of our Mercury suspect criteria, the waste will be analyzed for mercury upon receipt of the waste on-site.

3. Performing pre-accepting screening sampling and analysis twice a year is over burdensome and provides no additional information for compliance with the regulations. Veolia currently recertifies it waste streams every five years or if the process generating the waste changes. Veolia has thousands of waste profiles approved from generators that are never received. Many of these profiles are lab packs or off-specification products that the exact chemical composition is known. If waste is shipped to the facility, Veolia will determine if the waste is "mercury suspect" based on our defined criteria. If the waste is suspect for mercury it will be analyzed for mercury concentration upon receipt during the acceptance.

4. There are instances when a waste is profiled prior to being generated. In these cases, it would be impossible to obtain samples for pre-acceptance analysis. Generators who have approved profiles in place but have not shipped the waste will not provide a sample every six months.

5. Veolia's lab currently performs the analyses required by the WAP on 50-60 profile re-certifications per month. There are more than 9,000 profiles that are currently active at the facility. Were pre-acceptance screening and analysis procedures, to be required for the thousands of active profiles twice per year, the workload for this activity alone would increase to 1,500 each month. The added costs associated with wages and the purchase of additional instrumentation would be substantial. In addition, if Flash point, PCBs and metals as a part of our recertification analysis for all waste streams, it would take a significant amount of extra analysis time.

6. Recertifying every 6 months would simply add no new information relevant to processing the waste. Profiles are already amended every five years, or as process generating the waste changes and if they become discrepant.

7. Veolia feels that many of these additional conditions are overly onerous, appear punitive, have no regulatory or safety basis and are not consistent with the requirements of the other Region 5 hazardous waste incinerator permits.

Commentor's Suggestion : Delete the requirement for sampling and analysis of waste streams every six months. Continue to follow the current WAP requirements of recertifying waste streams every five years that includes analysis for mercury. The facility will analyze all waste that meet our mercury suspect protocol before incineration.

EPA RESPONSE:

1. Given the sensitivity of the surrounding community to mercury emissions and the allowable mercury feed rates in this permit, even small amounts of mercury in waste could impact the annual limit. MSDS sheets often limit reported concentrations to percent-levels (10,000 mg/kg). A small quantity of waste (i.e. one cubic yard) at even half this concentration would comprise the entire annual feed rate limit of mercury. Veolia's approach to analyze only waste "suspect" for mercury is not sensitive enough to ensure they comply with the mercury emission standard in this permit.

40 CFR Part 264.13(a)(1), states that "[b]efore an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under §264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part. . ." Although §264.13(a)(2) goes on to say that the analysis may be obtained from other sources, such as a generator, it does not guarantee that those sources *will* be sufficient, only that they *may* be. In fact, if the generator cannot supply the necessary information, the owner or operator is still responsible for obtaining it.

Veolia's own comment to Page IV-3 Section A.10.(vi) of the draft permit illustrates how even a small amount of mercury in a large waste stream may be critical to demonstrating compliance with an annual feed limit. The amount of mercury referenced (a detection level of 0.05 mg/kg) is well below the typical hazardous waste screens for mercury (0.2 mg/L TCLP) that a generator might certify to. Veolia's own example clearly shows the potential for mercury concentrations that are high enough to exceed the annual limit to go undetected, unsuspected, and assumed to be zero when they might not be. Thus, the permit conditions were designed to ensure that Veolia obtains good and detailed chemical analysis for the mercury content in wastes it will incinerate using appropriate methods and techniques for quality assurance and quality control.

2. Since the primary concern is the amount of mercury processed for incineration by Veolia, EPA recommends that pre-acceptance screening for mercury be required only when the waste stream will be incinerated. When Veolia decides to actively accept intermittently generated waste, the waste must be or have been screened for mercury in accordance with the special mercury procedures no more than one year prior to receiving the waste.

3. Since the proposed mercury feedrate is an annual one, EPA recommends the recertification occur no less than once a year. Given the sensitivity to risk from even low levels of mercury emissions and the potential for small variations in mercury content to increase risk, this interval shall not exceed one year (instead of the frequency provided for in the RCRA WAP). Veolia remains subject to the requirements to repeat analysis pursuant to Part 724.113(a)(3) of Title 35 of the Illinois Administrative Code.

4. See response to item 2. above.

5. As discussed above, these conditions were deemed necessary to protect human health and the environment from the consequences of mercury emissions.

6. See response to item 3. above.

7. Draft permit conditions are based on site-specific conditions and risk assessment at the Veolia facility and in the surrounding community.

EPA recommends that part of draft permit condition Section IV.A.10.(i) be changed from: "The Permittee shall follow this pre-acceptance screening sampling and analysis procedure at least twice a year for each waste stream . . ." to "The Permittee shall follow this pre-acceptance screening sampling and analysis procedure at least once a year for each waste stream . . ."

VEOLIA COMMENT: Page IV-2 Section A.10.(iii)

Draft Permit reads: *Batch sampling procedure. If waste accepted for incineration is batched, treated, blended, mixed, or otherwise altered from its shipped state, the Permittee shall sample and analyze such batched, treated, blended, mixed, or otherwise altered waste for mercury prior to incineration using appropriate quality assurance/quality control procedures and an appropriate test method that are consistent with SW-846. If the sampling analysis indicates that the concentration of mercury in the waste is such that the total annual feed rate limit for mercury in condition IV(A)(9) would be exceeded, the Permittee shall not incinerate such waste at the facility.*

1. If mercury analysis is performed at receipt it should not be necessary to re-analyze after batching has been performed. This will eliminate useless sampling and analysis. Following the requirements of this draft permit, waste received for processing as a decant or a consolidation would be analyzed no less than 3 times between the time the load arrives and the time it is incinerated. Also, it is more accurate to analyze the most concentrated waste (at receipt), than mathematically calculate the blended material. This avoids the issue of lower concentrations being found by analyzing blended diluted samples.
2. Operations would be unable to feed from storage tanks and bulk pits while waiting for mercury analysis to be completed.
3. Veolia feels that this additional condition is overly onerous, appears punitive, have no regulatory or safety basis are consistent with the requirements of the other Region 5 hazardous waste incinerator permits.

Commentor's Suggestion: All waste will be analyzed for mercury prior to incineration. Waste that meet the mercury suspect criteria would be sampled and analyzed before blending or consolidating. The blended, consolidated mixture would be calculated, using the results from the individual analysis and be based on volumes and mercury concentrations. This approach is more conservative and accurate than mixing then sampling and possible diluting the results due this activity.

EPA RESPONSE:

1. Given that only a fraction of the containers in an individual waste shipment will be subject to waste-acceptance sampling and analysis, an analysis of a blended batch will be more representative of the waste burned. In light of the more representative nature of blended-batch sampling, the hierarchy for determining mercury concentration for mercury annual feed rate calculation in Condition IV.3.A.10.(vi) should continue to place preference on the results of blended batch sampling. The sampling of intermediate batches or blends is not necessary, only the final batch or blend as fed for incineration.
2. We agree that it would be prudent for Veolia to wait for mercury analysis before burning waste from a particular blended batch.
3. Analysis of the blended batch will yield the most representative sample for mercury as it corresponds to the condition of the waste as fed to the incinerator. Samples from blended batches comprising waste from numerous smaller containers, such as 55-gallon drums, will include representative amounts from all the containers, while only a fraction of such containers will be physically represented in either pre-acceptance (profile) samples or acceptance samples. As the most representative form of sampling for Veolia's wastes, we believe it should remain the first choice for selecting mercury data for compliance documentation.

We recommend clarifying the permit language to make it clear that intermediate batches or blends (those that will have additional waste added to them before incineration) need not be sampled. We recommend adding "in its final form as feed for incineration," to the permit condition as follows:

"If waste accepted for incineration is batched, treated, blended, mixed, or otherwise altered from its shipped state, the Permittee shall sample and analyze such batched, treated, blended, mixed, or otherwise altered waste for mercury, in its final form as feed for incineration, prior to incineration

using appropriate quality assurance/quality control procedures and an appropriate test method that are consistent with SW-846.

VEOLIA COMMENT: Page IV-3 Section A.10.(iv)

Draft Permit reads: *Fuel procedure. The Permittee shall document the concentration of mercury in any fuel, including natural gas, used oil, diesel, and alternative fuels, but not including hazardous waste, fed into the incinerators by either (1) obtaining analytical results from each fuel supplier or (2) conducting representative sampling of each fuel supply and analyzing such samples using appropriate quality assurance/quality control procedures and appropriate test methods. The Permittee shall follow this procedure at least once per year for each fuel supply. If the sampling analysis indicates that the concentration of mercury in the fuel is such that the total annual feed rate limit for mercury in condition IV(A)(9) would be exceeded, the Permittee shall not feed such fuel to the incinerators.*

With the negligible amount of mercury in natural gas, obtaining this information twice a year doesn't provide additional useful information for the time spend obtaining and documenting the information.

Commentor's Suggestion: Delete this requirement. USEPA Air and Land Division have agreed that this requirement is no longer required due to the extremely low concentration of mercury in natural gas. See attached August 1, 2008 USEPA letter.

EPA RESPONSE:

Based on publications pertaining to the mercury content of fossil fuels, EPA agrees with Veolia's request provided they continue to use only natural gas. Other fossil fuels may contain mercury and should not be used without appropriate testing for mercury.

EPA recommends that draft permit condition Section IV.10.(iv) be deleted if the RCRA permit allows only natural gas as an auxiliary fuel or be changed from: "The permittee shall document the concentration of mercury in any fuel, including natural gas, used oil, . . ." to "The permittee shall document the concentration of mercury in any fuel other than natural gas including used oil, . . ."

VEOLIA COMMENT: Page IV-3 Section A.10.(v)

Draft Permit reads: *Special mercury procedure recordkeeping. The Permittee shall document compliance with the Special Mercury Procedures set forth in condition IV(A)(10). Such documentation shall include, but is not limited to, pre-acceptance waste screening determinations, waste acceptance determinations, sampling logs, analysis logs, sampling results, and quality assurance/quality control documentation. Permittee shall maintain such records for seven calendar years and make them available at all times for inspection by U.S. EPA, Illinois EPA, local agencies, or their duly authorized representatives.*

Veolia currently records and stores on-site all the information defined in this condition as it does for all waste streams. It appears that this condition is punitive in nature and would require the facility to incur additional recordkeeping and operational cost to comply with this requirement with no added benefits.

Commentor's Suggestion: No change to the facility's record keeping procedures are necessary.

EPA RESPONSE:

Hazardous waste treatment, storage, and disposal facilities are routinely required to document compliance with permit conditions.

EPA disagrees with Veolia and recommends the permit condition remain unchanged.

VEOLIA COMMENT: Page IV-3 Section A.10.(vi)

Draft Permit reads: *Determination of mercury concentration for mercury annual feed rate calculation. The Permittee shall use the concentration of mercury as set forth below in order to calculate the mass of mercury for each waste or fuel fed to each incinerator unit consistent with condition IV(A)(11):*

(1) if waste is batch fed to an incinerator unit, the mercury concentration for annual feed-rate limit calculation shall be:

(a) the result of the batch sampling analysis required by condition (A)(10)(iv); or
(b) the estimated quantitation limit (EQL), defined as the lowest non-zero concentration of mercury in a 5-point linear calibration study multiplied by the appropriate extraction and dilution factors, if mercury is not detected at or above the EQL in the batch sampling analysis required by condition IV(A)(10)(iii).

(2) if batch sampling is not required, the mercury concentration for annual feed-rate limit calculation shall be:

(a) the highest concentration of mercury detected at or above the EQL from the sampling analyses required for by conditions IV(A)(10)(i) and (ii), or condition IV(A)(10)(iv) for fuels; or
(b) the highest EQL from the sampling analyses required by conditions IV(A)(10)(i) and (ii), or condition IV(A)(10)(iv) for fuels, if mercury is not detected at or above the EQL in any of the sampling analyses required by conditions IV(A)(10)(i) and (ii), or condition IV(A)(10)(iv) for fuels, and there is acceptable knowledge that mercury could be present in the waste or fuel; or
(c) one-half of the highest EQL from the sampling analyses required by conditions IV(A)(10)(i) and (ii), or condition IV(A)(10)(iv) for fuels, if mercury is not detected at or above the EQL in either of the sampling analyses required by conditions IV(A)(10)(i) and (ii), or condition IV(A)(10)(iv) for fuels, and there is acceptable knowledge that that mercury is not present in the waste.

1. "EQL" is not a term familiar to the facility. Veolia assumes that EQL is equivalent to MDL (method detection limit).

2. Veolia feels that this additional condition is overly onerous, appears punitive, have no regulatory or safety basis, is not consistent with the requirements of the other Region 5 hazardous waste incinerators and could make the facility a non-viable operation.

3. There are many cases beyond the Exemptions given in the Draft, where mercury would not reasonably be expected to be in a waste. Using even half the highest EQL for these wastes as described above, would artificially inflate the total quantity of mercury fed to the units. Considering the drastically low feed limit in the draft permit, these sources which do not truly contain mercury should not be added to the total. The following example illustrates this:

If the EQL of 0.1 PPM was used for the 2007 throughput of 74,500,000 lbs, taking _ the EQL = 0.05 PPM.

$74,500,000 \text{ lbs} \times 0.05 \text{ PPM} / 1,000,000 = 3.725 \text{ lbs Hg}$

$3.725 \text{ lbs} \times 1 \text{ kg} / 2.2 \text{ lbs} = 1.7 \text{ kg Hg}$

1.7 kg Hg versus 3.63 kg Hg (RCRA permit limit)

50% of Hg calculated by this method in feed coming from _ EQL being used. This example demonstrates how the feed rate calculated by this method could grossly and artificially inflate the Hg feed rate. If following the procedure for a suspect waste, the EQL would be 0.1 ppm which would calculate out to 3.4 kg Hg. This is very near the proposed permitted limit of 3.63 kg. Again, a gross over estimation of what is actually being fed.

This second example details how the Hg feed is artificially inflated by non-batch analytical versus batch analytical:

Assume 55 gallon drum @ 1 ppm Hg

25,000 gallon tank @ 0 ppm Hg

EQL = 0.1 ppm

_ EQL = 0.05 ppm

Non-Batch Analytical $55 \text{ gallon} \times 8.34 \text{ lbs/gal} \times 1 / 1,000,000 = 0.0000459 \text{ lbs Hg}$

Calculated Hg concentration in tank: $55 / 25,055 \times 1 \text{ ppm} = 0.0022 \text{ ppm Hg}$

Batch Analytical $55 \text{ gal} + 25,000 \text{ gal} \times 8.34 \text{ lbs/gal} \times 0.05 / 1,000,000 = 0.01045 \text{ lbs Hg}$

Using the batch analytical calculation the Hg is inflated 23 times the non-batch analytical calculation.

Commentor's Suggestion: Delete this entire section due to the flawed nature of this calculation. Incorporate Veolia's current method of analyzing the waste as received, then calculating the batch concentration based on actual volumes and concentrations of the waste. This is more accurate and will not bias the results due to dilution.

EPA RESPONSE:

1. The EQL is clearly defined in the special mercury procedures and is not equivalent to the method detection limit. The permit defines the EQL as *... the lowest non-zero concentration of mercury in a 5-point linear calibration study multiplied by the appropriate extraction and dilution factors.*
2. This condition is designed to allocate an amount of mercury for compliance purposes with the annual feed rate. The condition is designed to ensure a conservative demonstration when multiple sources of data for a given waste are available. The condition is also designed to place a premium on good chemical analysis since more sensitive detection levels for mercury will result in lower annual feed rates.
3. The first example calculation provided does not demonstrate that a gross overestimation is being made. The special mercury procedures call for using the EQL or one-half the EQL. Mercury may very well be present just below these concentrations and to assume zero mercury could grossly underestimate mercury fed to the incinerator. The key to avoiding noncompliance with the annual mercury feed rate is to obtain the best analysis possible so that the lowest detected value or EQL will be used in the calculation. Based on the sensitivity to mercury emissions from the Veolia facility, as shown in the site-specific risk assessment, even small mercury concentrations in some wastes could result in deposition of mercury on the nearby lakes. Since even very small amounts of mercury in wastes that might otherwise be expected not to contain mercury could cause inappropriate emissions, it is important that Veolia check each waste for mercury. To avoid overestimating the amount of mercury in a waste for the purposes of tracking the annual mercury limit, Veolia should seek the lowest EQL by using analytical methods sensitive to very small amounts of mercury. In cases where Veolia can affirmatively demonstrate that mercury is not expected to be in the waste, the special mercury conditions allow Veolia to use one-half of the EQL when mercury is not detected.

In the second example, Veolia does not include an EQL or 1/2 EQL for the 25,000 gallons of liquid waste, potentially artificially lowering the mercury content of the blended batch by assuming exactly zero mercury in the liquid waste. By including the appropriate analytical result or EQL or 1/2 EQL for the 25,000 gallons of liquid waste, the non-batch analytical in the second example would be essentially equal to the batch analytical calculation.

EPA disagrees with Veolia and recommends the permit condition remain unchanged.

VEOLIA COMMENT: Page IV-5, Section A.10.(vi) paragraph following (6)

Draft Permit reads: *The Permittee shall review any container labels, material safety data sheets, drum inventories, packing lists, and any other relevant data or information provided by the generator to determine whether mercury is present in any waste listed above that may be exempt. Only those wastes listed above that the Permittee determines in writing contain no mercury based on such review are exempt from the Special Mercury Procedures set forth in conditions IV(A)(10)(i) through (vi). The Permittee's written determination of exemption from the Special Mercury Procedures shall describe the information reviewed and the basis for the determination that no mercury is present. Any waste listed above for which there is insufficient information to allow the Permittee to make a reasonable determination that mercury is not present shall not be exempt. The Permittee shall maintain any written determination of exemption at the facility for seven calendar years and make it available at all times for to U.S. EPA, the Illinois EPA, local agencies, or their duly authorized representatives for inspection.*

The list needs to not be all-inclusive and make provisions for those waste that are not identified on this list but meet the mercury exemption criteria.

Commentor's Suggestion: Add a provision to this list that includes other waste types that meet the mercury exemption but may not be identified on this list.

EPA RESPONSE:

Generally, the exception to required mercury analysis should stem from either of two concepts taken from the April 1994, *Waste Analysis At Facilities That Generate, Treat, Store, And Dispose Of Hazardous Wastes, A Guidance Manual*; U.S. EPA Office of Solid Waste And Emergency Response, OSWER 9938.4-03:

1. Physical nature of the waste does not lend itself to taking a laboratory sample, and
2. Health and safety risks to personnel would not justify sampling.

Given the premise of Veolia's business model as disposal services for hazardous materials, there is an expectation that Veolia should be capable of handling and analyzing (or procuring off-site analysis) of many types of high hazard wastes that do pose health and safety risks. Veolia is in the business of disposing of hazardous waste. Therefore, this exception should be limited to extreme cases wherein the risk to laboratory personnel is much greater than to other facility personnel who routinely handle the waste because of the unique risks posed by laboratory techniques versus other facility operations.

A small number of other possible exception criteria described in the RCRA Waste Analysis Plan Guidance were rejected in this case because of the importance of identifying even trace amounts of mercury incinerated at this location and because mercury analytical services are commonly available at both commercial laboratories and Veolia's own on-site laboratory. For example, the RCRA Waste Analysis Plan Guidance also states that:

"any waste described in the F, P, or U list has already been designated as hazardous by EPA. Therefore, with many listed wastes the application of acceptable knowledge is appropriate because the physical/chemical makeup of the waste is generally well known and consistent from facility to facility."

EPA does not believe that the "generally well-known chemical make-up of the waste"-assumption will adequately account for mercury concentrations at the levels the risk assessment is sensitive to. Furthermore, it is not difficult to obtain representative samples for many of these wastes or to analyze them in Veolia's on-site lab or at an appropriate off-site facility. Veolia should actively test these wastes.

The current draft permit exemption categories can be related to the RCRA Waste Analysis Plan Guidance exception concepts as explained below.

Exemption number (1) is for "packaged chemicals from laboratories, hospitals, household clean sweeps, or manufacturing facilities, including scintillation vials packed in accordance with Small Quantity Chemical Guidelines (SQCG's)." This type of waste is often referred to as a *lab-pack* and consists of containers such as drums packed with many smaller containers. Due to the small size of each of many individual containers combined with the likelihood that such materials will have some label or other documentation, EPA believes the physical nature of this

type of waste does not lend itself to taking laboratory samples. However, *chemicals from laboratories, hospitals, household clean sweeps, or manufacturing facilities* that are not packaged in numerous small containers or are unknowns (such as having no labels or other identification) would not be appropriate to exempt from mercury analysis.

Exemption number (2) “Empty containers as defined in 35 IAC 721.107(b);” should present a similar problem sampling provided they are really empty (meeting all three of the provisions of 35 IAC 721.107(b)).

Exemption number (3) “Pharmaceutical and commercial products or chemicals that are off-specification or outdated and are packaged in consumer quantities, are unused or banned, and are in their original packaging or are packaged as specified by the Permittee” fall into the same category due to the small size of individual containers combined with the likelihood that such materials will have some label or other documentation. Just as for the lab-packs, wastes described by this exemption that are not packaged in numerous small containers or are unknowns (such as having no labels or other identification) would not be appropriate to exempt from mercury analysis. In light of the clarification, we recommend deleting “. . . or are packaged as specified by the Permittee” as this could include bulk shipments that present no difficulty in sampling.

Exemption number (4) “Aerosol cans, lecture bottles or gas cylinders;” are also considered to present sampling problems due to the physical nature of the waste not lending itself to the taking of a laboratory sample. However, *aerosol cans, lecture bottles or gas cylinders* that are unknowns (such as having no labels or other identification) would not be appropriate to exempt from mercury analysis.

Exemption number (6) “Explosive, poison inhalation hazard (PIH), or odiferous material, such as mercaptan, which present sampling, and analytical safety hazards.” are considered to present health and safety risks to personnel that would not justify sampling as long as these materials are to be handled unopened until destroyed in the incinerator. Wastes that might otherwise meet this definition but are opened, bulked, repackaged, or otherwise handled by the permittee are viewed as hazardous materials for which the permittee is willing to and able to handle despite the risks and would not be exempt from mercury analysis.

Exemption number (5) “Controlled substances regulated by the Federal Government”; are for controlled substances as defined in 21 CFR Part 1308 that are required by the United States Drug Enforcement Agency to be processed unopened. This exemption stems from the requirements of other Agencies and not from the RCRA Waste Analysis Plan Guidance concepts.

EPA continues to recommend requiring affirmative documentation of the absence of mercury for wastes exempted from special mercury conditions (permit condition A.10(vii)). Veolia must be able to document that mercury is not present in the exempted wastes. A lack of documentation that mercury is present does not mean that mercury is absent.

The appropriate method for adding other waste types to the list of exemptions to the special mercury procedures is as a Class 2 Permit modification as defined in Title 35 of the Illinois Administrative Code, Section 703, Appendix A, Classification of Permit Modifications.

Specifically, modification A.4. “Changes in the frequency of or procedures for . . . sampling . . .”, modification B.1.d “changes to waste sampling or analysis methods. . . other changes. . .”, and modification L.5.c. “Modification of any other operating condition or recordkeeping requirement specified in the permit. . .” all require a class 2 permit modification.

In order to clarify the approach to mercury analysis exemptions, EPA recommends the following changes to the draft permit conditions. EPA also recommends that a permit modification framework for adding types of wastes to the list of exemptions be presented to Veolia under separate cover including a description of the exemption criteria.

Add “except those that are not packaged in numerous small containers or are unknowns (such as having no labels or other identification)” to permit condition IV.A.10. (vii)(1) as follows:

(1) Packaged chemicals from laboratories, hospitals, household clean sweeps, or manufacturing facilities, including scintillation vials packed in accordance with Small Quantity Chemical Guidelines (SQCG's) except those that are not packaged in numerous small containers or are unknowns (such as having no labels or other identification). For packaged chemicals, the Permittee shall obtain a packing list for each container from the generator specifying type and quantity of chemicals contained within;

Add “except those that are not packaged in numerous small containers or are unknowns (such as having no labels or other identification)” to permit condition IV.A.10. (vii)(3) and delete “or are packaged as specified by the Permittee” as follows:

(3) Pharmaceutical and commercial products or chemicals that are off-specification or outdated and are packaged in consumer quantities, are unused or banned, and are in their original packaging except those that are not packaged in numerous small containers or are unknowns (such as having no labels or other identification);

Add “except those that are unknowns” to permit condition IV.A.10. (vii)(4) as follows:

(4) Aerosol cans, lecture bottles or gas cylinders, except those that are unknowns;

Add “, as defined in 21 CFR Part 1308,” and “and are handled unopened until destroyed in the incinerator” to permit condition IV.A.10. (vii)(5) as follows:

(5) Controlled substances, as defined in 21 CFR Part 1308, regulated by the Federal Government and are handled unopened until destroyed in the incinerator; and

Add “, that are handled unopened until destroyed in the incinerator” to permit condition IV.A.10. (vii)(6) as follows:

(6) Explosive, poison inhalation hazard (PIH), or odiferous material, such as mercaptan, which present sampling, and analytical safety hazards, that are handled unopened until destroyed in the incinerator.

VEOLIA COMMENT: Page IV-5 and IV-6, Section A.11,A.12 and A.13.

1. The requirements defined in condition 11, 12 and 13 are maintained at the facility through various reports and documents including electronic media. These records are available at any time for Regulators to review, however, these records that demonstrate compliance with the mercury feed rate are not incorporated into one log. This requirement of all the information documenting compliance in one log is not required by the Regulations and seem to be arbitrary and capricious.

2. Veolia feels that this additional condition is overly onerous, appears punitive, have no regulatory or safety basis and are not consistent with the requirements of the other Region 5 hazardous waste incinerator permits.

Commentor's Suggestion: Delete conditions A.11, A.12 and A.13. Veolia maintains all of required records that are defined in these conditions, however they are in many different reports and on electronic media but not part of one log. They are available for review at any time.

EPA RESPONSE:

Hazardous waste treatment, storage, and disposal facilities are routinely required to maintain records or logs documenting compliance with permit conditions. Since so many different sources of information are necessary to demonstrate compliance with an annual mercury feed limit (waste mercury concentrations, waste feed rates, three different incinerators, etc.) it is reasonable to require that the information be organized in a concise manner such as a single log. Without such a log, it would be very difficult to verify that facility emissions will not pose a hazard to human health through ingestion of mercury in fish. For example, Veolia currently tracks mercury feed rates electronically, yet was unable to provide information about the highest 12-hour rolling average mercury feed rates to Agency personnel for over four months after requested by EPA. A single log comprising all of the data necessary to calculate the total facility annual mercury feed rate and that can be reviewed for compliance during a facility visit will significantly improve Veolia's ability to document compliance.

EPA disagrees with Veolia and recommends the permit condition remain unchanged.

VEOLIA COMMENT: Page V-1, Special Condition 6

Draft Permit reads: *Mandatory analysis must be conducted on each individual phase of a multi-phase waste stream.*

1. This condition doesn't appear to be relevant or apply to Section V, Material Processing.
2. Method SW846 provides specific cases for multi-phase sampling and analysis. It is unnecessary to require multiple samples in all cases if following EPA Methods found in SW846.
3. In discussions with Chris Lambesis of USEPA, he indicated that this was not a mandatory analysis and only applied to metals. Veolia digest all of its metal samples in a microwave using high temperature and pressure in concentrated acids. The reaction is controlled and monitored throughout the digestion. This produces a completely homogenous sample.

Commentor's Suggestion: Delete this condition since it doesn't apply to this material processing section and due to phases being eliminated by the metals sample preparation procedure.

EPA RESPONSE:

Provided Veolia commits to a mercury analytical method that is relatively insensitive to matrix interference, such as *mercury in solids and solutions by thermal decomposition, amalgamation, and atomic absorption spectrophotometry*, EPA agrees that this condition will not be necessary. The method above, SW-846 Method 7473, is very robust and only samples comprising a silica matrix require special sample preparation such as provided by SW-846 Method 3052. Veolia's proposed RCRA WAP refers to none of these methods although EPA personnel observed instruments consistent with these methods at Veolia's on-site laboratory. We recommend changing this condition to reflect these particular methods or ensuring the RCRA WAP is modified to require them.

VEOLIA COMMENT: Page V-1, Special Condition 7

Draft Permit reads: *The waste stream profile must include a measured pH of a representative sample of the waste or identify a pH range not to exceed four standard units. Waste identified with a single pH on the profile shall be considered nonconforming if the pH is greater than or less than two standard units of the profile value. Waste identified with a four standard unit pH range on the profile shall be considered nonconforming if the pH is greater than or less than the specified range.*

The waste stream profile must include a specification of the total number and type of possible phases expected in the waste stream. Waste shall be considered nonconforming if the number or type of observed phases differs with the number or type indicated on the profile.

1. Liquid wastes are not managed in the material processing areas and so pH would not be a condition relevant to these areas.
2. The second paragraph of Condition 7 doesn't seem to be related to pH.
3. Currently, the facility's WAP defines a discrepancy with pH when the value is less than 2 or greater than 12.5 and it is not profiled as such. This would then require the D002 code to be added to the manifest. The pH of the waste is an indicator for processing. Compatibility testing is completed on all waste added to tanks. Waste is not mixed in material processing so the pH is not a processing issue.
4. The facility has had no incidents with waste due to pH.

Commentor's Suggestion: Remove Special Condition 7 from Section V and continue to follow the current requirements in the WAP.

EPA RESPONSE:

These conditions are designed to flag wastes that may be significantly different than those expected based on the profile. Non-conformance with these conditions is not intended to result in automatic rejection, only further investigation as a non-conforming waste. EPA recognizes the regulatory significance of pH values as they relate to the D002 waste code, however, these requirements address issues of nonconformance that could indicate that waste constituents have undergone dangerous conversion to other compounds or that the waste has been misidentified by the generator. A pH swing between 12.0 on the profile and 2.5 in the drum would not be flagged under the current system, yet the waste could hardly be considered consistent. Additional phases not mentioned in the profile could carry chemicals, waste codes, and safety and environmental hazards not identified in the profile.

EPA disagrees with Veolia and recommends the permit condition remain unchanged.